

PROCEEDINGS
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NEW GENERA AND SPECIES OF AMERICAN MUSCOID
DIPTERA.

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The following are descriptions of new forms of exceptional interest, which it seems desirable to publish at this time.

Spirobolomyia new genus.

Genotype, *Sarcophaga singularis* Aldrich, 1916, *Sarcophaga* & Allies, 184-6.

Differs from *Sarcophaga* as follows: Vibrissal axis hardly two-thirds head-height. Vibrissae not constricting facial plate. Proboscis about three-fourths head-height. Frontals diverging obliquely two bristles below base of antennae. Parafacials about half as wide as clypeus. Cheeks less than half eye-length. Preacrostichals present but very small. Lateral scutellars two. Hind tibiae of male with only short villosity on distal half or less. No median macrochaetae on second or third abdominal segments. Forceps of male large and carinate. First hypopygial tergite of female entire.

In addition to the material cited by Aldrich, the National Museum collection contains a specimen reared by Mr. H. S. Barber from a dead *Julus* sp., from Jackson's Island, Md.

Thelylepticcnema new genus.

Genotype, *Sarcophaga incurva* Aldrich, op. cit., 260-2.

Differs from *Sarcophaga* as follows: Vibrissal axis much less than head-height and slightly less than antennal axis. Clypeus not as wide, the epistoma but moderately projected. Vertex of male over two-thirds width of one eye, that of female nearly eye-width. Both verticals developed in male. Frontals diverging one bristle or so below base of antennae. Frontalia of male over twice as wide as one parafrontal in middle, those of female slightly less than same. Cheeks of male hardly two-thirds eye-length, those of female over two-fifths same. Preacrostichals present.

Squamae longer than wide. No median macrochaetae on second abdominal segment; fairly strong macrochaetae on third. Male hypopygium small, the forceps minute. First hypopygial tergite of female incised. Arista only short-plumose half way. Male tibiae not villous.

In the genotype the hind legs of the male are remarkably specialized for grasping the female, the tibia being shortened to fit against heavy spine-brushes or pads on the flexor surface of the femur. A male was taken by myself on Manzanares Creek, in the Pecos Forest Reserve, New Mexico, at about 7500 feet, on carpet of short herbage on hillside in open pine forest, August 30, 1916. The abdomen is bright silvery pollinose; with a median vitta, and a waved vitta on each side of same, black. *S. insurgens* Ald. is evidently a male of *incurva* in which the development of the sexual character of the hind legs was arrested soon after inception. A female which I regard as congeneric was taken by myself near Franconia, New Hampshire, July 24, 1915.

Titanogrypa new genus.

Genotype, *Sarcophaga melampyga* var. *alata* Aldrich, op. cit., 109-10, raised hereby to specific rank.

Differs from *Sarcophaga* as follows: Vibrissal axis much less than head-height. Clypeus rather narrowed, but the vibrissae well separated. Proboscis longer than head-height. Arista short-plumose half way. Eyes descending low, the cheeks little over one-fourth eye-length. Male vertex fully three-fourths eye, that of female hardly as wide as eye. Frontalia and parafrontalia not narrowed posteriorly, nearly or quite equal to each other in width in both sexes. Outer verticals long and strong in male. Two reclinate fronto-orbitals in both sexes. Frontals diverging one bristle below base of antennae. Parafacialia little over half as wide as clypeus. Facio-orbitals in row of microchaetae only. Postsuturals three. Lateral scutellars two, no discals; between the two laterals on each side the edge of scutellum is furnished in both sexes with a thick patch of short specialized hairs. Costal spine strong. First vein bristled half way, the third to small crossvein. Squamae longer than broad. None of male tibiae villous. Long strong erect median marginals on intermediate abdominal segments in both sexes, anal segment with a median discal pair in front of marginal row. Male claws only a little elongate. Male hypopygium rather small. First hypopygial tergite of female concealed within a long and narrow vertical slit formed by anal segment and bordered with decussate bristles.

A long series of both sexes of this species was taken by Mrs. Townsend and myself at Miami, Florida, in 1908. Many females were dissected—TD517, 586, 1325, 1328, etc. The first-stage maggot possesses a most astonishing development of the oral portions of the cephalopharyngeal skeleton, unlike anything so far known. The generic name refers to this character. The allotype of *S. melampyga* Ald., from Key West, Fla., is this species.

Wohlfahrtiopsis new genus.

Genotype, *Sarcophaga johnsoni* Aldrich, op. cit., 162-5.

Differs from *Sarcophaga* as follows: Clypeus narrower, proboscis distinctly exceeding head-height. Arista short-plumose two-thirds to three-fourths way. Male vertex fully as wide as eye, that of female wider. Frontals weakly divergent at base of antennae. Frontalia very broad, not narrowed. Parafacialia broader than clypeus, with hairs of even strength in irregular rows. Cheeks fully three-fifths eye-length. Post-suturals two. Squamae conspicuously longer than broad. No median marginals on segment two of abdomen. First hypopygial tergite of female incised.

A very marked form approaching *Wohlfahrtia* in head characters, and confined to sea beaches.

Rafaelia new genus.

Genotype, *Rafaelia rufiventris* new name for *Sarcophaga rufiventris* Aldrich, op. cit., 150-1 (nec Wiedemann, 1830, Anss. Zweifl. II, 362).

Differs from *Johnsonia* Coq. in hind crossvein being about half way between small crossvein and cubitus, costal spine strong, first and third veins partly bristled but the fifth bare, male without proclinate orbitals, female with two such, both verticals developed in both sexes, ocellars strong, and no median macrochaetae on second abdominal segment. Clypeus narrow, epistoma cut off. Frontals stopping at base of antennae. Tarsi elongate and thickened, especially those of female. Vibrissal axis shorter than antennal axis. Frontal profile bulged. Face only gently widened from front in both sexes, the male front only a little narrower than that of female. Macrochaetae strong. The apical cell is closed and more or less distinctly short-petiolate.

The species is founded on a male and a female taken by myself at San Rafael, near Jicaltepec, on the Rio Nautla, State of Veracruz, June 20, 1896. They were labeled by Coquillett "*Helicobia rufiventris* Wied." with a query, but do not agree with Wiedemann's description. The form belongs unmistakably on external characters to the *Johnsonia* group-unit.

Holotype, No. 20,947 U. S. N. M., female; allotype, male.

Glaucosarcophaga new genus.

Genotype, *Glaucosarcophaga knabi* new name for *Sarcophaga villipes* Aldrich, op. cit., 178-9 (nec Wulp, 1895, Biologia C.-A., Dipt. II, 269).

Differs from *Sarcophaga* as follows: Vibrissal axis hardly three-fifths head-height and distinctly shorter than antennal axis. Epistoma but slightly projected beyond vibrissae, moderately wide, somewhat warped forward from plane of clypeus. Proboscis barely one-half head-height. Arista rather short-plumose on little over basal half. Female vertex fully equalling or exceeding eye, the front nearly equilateral. Frontals not divergent, stopping at base of antennae. Frontalia very wide, not narrowed, widening posteriorly, being in middle about two and one-half times as wide as one parafrontal. Ocellars strong. Parafacialia two-

thirds to three-fourths width of clypeus. Facio-orbitals in row of very fine and short hairs only. Cheeks hardly one-half eye-length. Post-acrostichals vestigial. Costal spine strong. First vein bristled less than half-way, third to or nearly to small crossvein. No median macrochaetae on second abdominal segment, weak median marginals on third, weak marginal row on anal segment. First hypopygial tergite forming wide vertical slit bordered with decussate bristles. The male is not known.

The species is founded on two females taken by Mr. F. Knab at Cordoba, Veracruz, April 1 and 10, 1908. It lacks preacrostichals and otherwise fails to agree with Wulp's description of *villipes*. Named in honor of Mr. F. Knab.

Holotype, No. 20,948 U. S. N. M.

Acridiophaga new genus.

Genotype, *Sarcophaga aculeata* Aldrich, op. cit., 143-4.

Differs from *Sarcophaga* as follows: Vibrissal axis not over three-fifths head-height, shorter than antennal axis. Clypeus broader than length of third antennal joint, rather shortened; epistoma broad, well projected below, nearly in plane of clypeus. Facialia rather flattened, the vibrissal angles considerably narrowing the facial plate. Proboscis about two-thirds head-height. Male vertex less than one-half eye, that of female little over three-fourths eye. Frontals diverging obliquely one or two bristles below base of antennae. Outer verticals not developed in male. Male with two reclinate fronto-orbitals. Frontalia narrowing posteriorly in both sexes, narrower than one parafrontal in female. Parafacialia over half width of clypeus, rather thickly hairy on orbital half. Facio-orbitals represented by four or five bristly hairs a little longer than the others. Cheeks a little less than half eye-length. Three strong post-suturals. Three or four preacrostichals. Squamae rather longer than broad. None of male tibiae villous. Median marginals of second abdominal segment weak or vestigial, weak marginal row on third and anal segments. Male hypopygium rather small. First hypopygial tergite of female entire; theca ending in spatulate lobes.

This genus includes many species, most of which are particularly parasitic on Acridiidae, ranging from the western States through tropical America to the Argentine.

Metoposarcophaga new genus.

Genotype, *Sarcophaga pachyprocta* R. R. Parker, 1916, Journ. N. Y. Ent. Soc., XXIV, 171-5.

Differs from *Sarcophaga* as follows: Lower profile of head short, the vibrissal axis strikingly less than antennal axis. Clypeus rather narrowed and elongate, carina more or less distinct. Epistoma projecting only a little, somewhat warped. Proboscis hardly two-thirds head-height. Arista not very long-plumose. Male vertex three-fourths eye, that of female fully as wide as eye. Frontals diverging one bristle below base of antennae. Outer verticals strong in male. Frontalia appreciably nar-

rowed posteriorly in both sexes, nearly or about as wide as one parafacial. Parafacialia about two-thirds width of clypeus. Facio-orbitals in row of fine hairs only. Cheeks of male about one-third eye-length, those of female two-fifths same. Three postsuturals. Three strong preacrostichals, the hind ones long. First vein bristled about half-way, third to small crossvein. None of male tibiae villous. Front and middle metatarsi about half the length of their tibiae. Male claws not very elongate. Median marginals present on second abdominal segment of female, but weak or vestigial in male. Strong median marginals on third segment of both sexes. Male hypopygium large, the first tergite disk-like with posterior exposure. First hypopygial tergite of female entire.

This form may be recognized at once by its much produced frontal profile, combined with strong preacrostichals.

Raimondia new genus.

Genotype, *Raimondia uruhuasi* n. sp.

Differs from *Sarcophaga* as follows: Vibrissal axis fully three-fourths head-height, a little less than antennal axis. Clypeus narrow and elongate, only a little wider than facialia; carina prominent, epistoma narrow and but little projected beyond vibrissae. Facialia very wide, considerably flattened but showing convexity. Vibrissal angles scarcely constricting facial plate. Proboscis shorter than head-height. Antennae inserted slightly below eye-middle, second joint moderately long, third joint about one and one-half times second. Arista weakly plumose less than two-thirds way. Female vertex not as wide as eye. Frontals diverging in gradual curve but stopping about even with end of frontalia. One decussate pair of reclinate fronto-orbitals. Frontalia very broad, wider than one parafacial in middle, gradually narrowed posteriorly. Parafacialia very broad, quite as wide as length of third antennal joint, with median longitudinal patch of hairs in about three irregular rows. Cheeks rather over half eye-length. Three strong postsuturals. Preacrostichals not represented even by bristles. One strong postacrostichal. Lateral scutellars two, the hind ones approximated. Squamae longer than broad. Tarsi slightly elongate, female claws long. No median marginals on second abdominal segment, rather strong but slender median marginals on third segment, marginal row of slender ones on anal segment. First hypopygial tergite apparently normal. Male unknown.

Raimondia uruhuasi n. sp.

Length of body, 12 mm.; of wing, 10.5 mm. One female, Uruhuasi Bridge, Canyon of Rio San Gaban, Peru, about 6,500 feet, February 3, 1910, on flowers of *Baccharis* sp. (Townsend).

Blackish; head silvery with a faint golden shade, giving way to blackish with change of light incidence on parafrontals except anterior end, in transverse band even with second antennal joint, and in an elongate marking on parafacials next eye. Cheeks and occiput more or less ashy-brown pollinose, thinly black-hairy. Frontalia brown, palpi black.

Antennae black, third joint with a brown sheen. Thorax and scutellum ashy-brown pollinose, more or less silvered in oblique view; vittae black with wide brown borders, the whole of the three vittae changeable to brown in front view. Abdomen black, pale brownish to silvery pollinose, a wide black median vitta, the hind borders of segments more blackish or subshining. Legs black. Wings clear, with narrowly clouded cross-veins. Tegulae whitish, with pale fuscous borders and yellowish edges.

Holotype, No. 20,949 U. S. N. M.

This striking genus is named as a tribute to the memory of that enthusiastic, capable and indefatigable Italian naturalist, Antonio Raimondi, who penetrated nearly every corner of Peru during his residence of nineteen years in that country, and who has left us in his work "El Peru" a detailed account of his early ambitions and subsequent travels, told in a style that is charming in its simplicity and directness.

Cistudinomyia new genus.

Genotype, *Sarcophaga cistudinis* Aldrich, op. cit., 278-80.

Differs from *Sarcophaga* as follows: Striking head profile of *Eutheresia* and *Paratheresia*, the vibrissal axis much shorter than antennal axis and equal to about two-thirds head-height. Clypeus broad and short, the carina more or less distinct; epistoma much narrowed by vibrissal angles and well projected below them. Facialia strongly arcuate, considerably flattened. Proboscis little over half head-height. Third antennal joint one to one and a half times second. Arista thickly long-plumose practically to tip. Male vertex almost as wide as eye, that of female nearly or more than one and one-fourth times eye, the front strongly bulged in profile. Frontals thickly placed, not divergent, stopping at base of antennae. Outer verticals developed in male. Frontalia broader than one parafrontal in middle and distinctly narrowing posteriorly in both sexes. Parafacialia scarcely narrowed below, about as wide as frontalia, with two or three irregular rows of very fine hairs or only scattered hairs. Cheeks of female nearly three-fifths eye-length, those of male over half same. Sternopleurals three to six, normally four. Postsuturals two, with two to four short bristles in front. None of male tibiae villous. No median macrochaetae on second abdominal segment, a marginal row on third and anal segments in both sexes. Male hypopygium small, with small forceps. First hypopygial tergite of female entire, showing a strongly arcuate outline.

This most interesting form, which is far removed from the *Sarcophaga* type, is evidently a true parasite confined to the box-turtle.

Eutheresiops new genus.

Genotype, *Eutheresiops trixoides* n. sp.

Differs from *Eutheresia* as follows: Vertex about as wide as eye. Frontalia broader; parafacialia nearly as broad as anterior end of frontalia, and bearing a small patch of hair below next orbit. Cheeks over one-half eye-length. Eyes hairy. Antennae shorter, third joint two to two

and one-half times second. Epistoma proportionately broader. Three sternopleurals. Two lateral scutellars, apical decussate pair, and discal pair. Very weak median marginals on abdominal segment two, strong ones on segment three; discal row on anal segment, with only weak bristles behind. Palpi not enlarged. Male unknown.

Eutheresiops trixoides n. sp.

Length of body, 8.5 mm.; of wing, 8 mm. One female, Mound Valley, Sierra Madre of western Chihuahua, about 7500 feet, August 23, 1909 (Townsend).

Blackish, ashy-silvery pollinose. Frontalia brown, palpi fulvous, first two antennal joints rufous, third antennal joint brown or blackish. First abdominal segment and hind borders of intermediate segments more or less blackish, the rest of abdomen and all of thorax and scutellum pollinose. The usual four brown thoracic vittae. Legs black. Wings clear. Tegulae whitish.

Holotype, No. 20,950 U. S. N. M.

Jicaltepecia new genus.

Genotype, *Jicaltepecia rafaella* n. sp.

Differs from the other genera of the *Compsilura* group as follows: Eyes bare. Facialia ciliate about one-third way. Parafacialia only a little narrowed below, with rows of fine hairs the whole length. Vertex about two-thirds eye, the front and face gradually widening from same, the face below being about one and one-half times eye. Cheeks less than one-fourth eye-length. Outer verticals not developed. Frontalia about same width as one parafrontal; latter scarcely narrowing posteriorly, the former strongly so. No true median discals on any of abdominal segments, the anal segments with some short lateral discals, the third segment at times with scarcely differentiated short discals. Male unknown.

Jicaltepecia rafaella n. sp.

Length of body, 7 mm.; of wing, 5.5 mm. One female, San Rafael, Jicaltepec, Veracruz, March 2, 1896 (Townsend).

Head golden, occiput cinereous, frontalia velvet-brown, antennae blackish, palpi fulvous. Thoracic scutum pale golden; with four black vittae, the inner ones linear and narrow, the outer broad and blotchlike, all four united behind suture by a black blotch. Scutellum golden, showing blackish basally. Abdomen black, basal half or so of segments two to four pale golden pollinose. Legs brownish. Wings clear. Tegulae yellowish-white.

Holotype, No. 20,951 U. S. N. M.

Euphoroceroptis new genus.

Genotype, *Euphoroceroptis alba* n. sp.

In form like *Euphorocera*, from which it differs as follows: Cubitus with only trace of wrinkle. Vibrissal axis about half antennal axis.

Second antennal joint short; third fully four and one-half times second, widening gradually toward apex. Arista longer than whole antenna, gradually tapered. Vertex about eye-width, front and face gradually widening from same. Anal segment thickly bristled, especially on hind half. Ovipositor chitinous, rounded-spatulate. Male unknown.

***Euphorocerosis alba* n. sp.**

Length of body, 13 mm.; of wing, 11 mm. One female, Tampico, Mexico, reared by Mr. D. L. Crawford, February 19, 1914, from lepidopterous pupa whose caterpillar had fed on foliage of avocado-pear.

Face silvery-white pollinose. Antennae blackish, third joint reddish basally. Palpi fulvous. Frontalia brownish, parafrontalia silvery-ashy; occiput ashy, beard white. Thorax and scutellum silvery-ashy pollinose, with the usual four vittae. Abdomen blackish, segments two to four silvery pollinose on basal half more or less. Legs blackish. Wings clear. Tegulae white.

Holotype, No. 20,952 U. S. N. M.